



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1456  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09 673,555	02.13.2001	Jacques Benveniste	9320.113USWO	8541

23552 7590 05.29.2003

MERCHANT & GOULD PC  
P.O. BOX 2903  
MINNEAPOLIS, MN 55402-0903

EXAMINER

CHUNDURU, SURYAPRABHA

ART UNIT PAPER NUMBER

1637

DATE MAILED: 05/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/673,555

Applicant(s)

BENVENISTE ET AL.

Examiner

Suryaprabha Chunduru

Art Unit

1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 and 33-72 is/are pending in the application.
- 4a) Of the above claim(s) 24-27, 36-41 and 65-68 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23, 28-31, 33-35, 42-64 and 69-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Applicants' response to the office action (Paper No. 17) filed on March 10, 2003 has been entered and considered.

**Response to arguments**

2. Applicants' response to the office action (Paper No. 17) is fully considered and found persuasive in part.

3. With reference to the rejection maintained under 35 USC 112, second paragraph, applicants' arguments and amendment are fully considered and found not persuasive because Applicants argue that the phrase "electromagnetic signal characteristic of a biological activity" is explained adequately in the specification as "the electromagnetic signal picked up from a biologically active element". However, examiner notes that this limitation is not found in the amended claim 1 and also notes that the specification cannot be read in to the claims. Hence the rejection is maintained herein.

4. With reference to the rejection made under 35 USC 112, first paragraph, the rejection is withdrawn herein in view of applicants' argument and amendment (Paper No.17).

5. With reference to the rejections maintained under 35 USC 102(a), 102(b) and 102(e), Applicants' arguments and amendment are fully considered and found persuasive in part.

(i) the rejection under 35 USC 102(a) as anticipated by Benveniste et al. (FASEB J., March 17, Vo. 12(4), pp. A412, 1998, 102(b) as being anticipated by Hollis et al. (USPN. 5,653,939) and 102(e) as anticipated by Gold et al. (USPN. 6,242,246) are withdrawn herein in view of the amendment. The amendment of claim 1 reciting the "excitation signal having frequency about 20 Hz and about 20,000 Hz" obviated the rejection.

Art Unit: 1637

(ii) With reference to the rejection under 35 USC 102(b) as anticipated by Benveniste et al. (J.Allergy Clin Immunol., Vol. 99(1), part 2, ppS175, 1997). Applicants arguments and amendment are fully considered and found not persuasive. Applicants' amendment did not change the scope of the amended claim 1 since the prior art teaches the excitation signal having frequency of 22,000 Hz (see page S175, column 1, abstract 705). Applicants' argue that the prior art of the record did not teach applying an excitation electromagnetic field prior to recording the signal produced by Ovalbumin. This argument is found not persuasive because the prior art teaches "digitized antigen signals or digitally amplified" and "EM radiation under 22 kHz can be digitized" which indicates that the biological element (antigen) had been exposed to EM prior to recording the amplified signals. Further, the limitation in the instant claim 1 recites " EM signal can be applied prior to, simultaneously with, or subsequent to" which does not limit the claim to application of EM signal prior to recording the signal. Thus the rejection is maintained herein for the instant claims 1-23, 28-31, 33-35, 42-64, 69-72.

### ***New Grounds of rejections***

#### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-30, 33-35, 42-64, 69-72 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Patent No.6,541,978 ('978). Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims recite a method for amplifying a reaction between a ligand and a receptor of a ligand-receptor pair comprising (a) producing or acquiring signals from ligand and / or receptor that are characteristic of the biological or chemical activity or chemical behaviour, by placing ligand and /or receptor in a zone subjected to an excitation field of an electrical, magnetic, or electromagnetic type, wherein excitation field is produced by an excitation signal frequency between about 20Hz and 20kHz, converting the fields resulting from the interactions of said field and said ligand and / or receptor into signals by a transducer or a sensor; (b) bringing into contact said ligand-receptor pair to react and (c) applying the electromagnetic (EM) signal characteristic of the biological activity of at least one of said ligand or said receptor to atleast one said ligand or receptor, by applying EM signal prior to, simultaneously with or subsequent to said ligand and said receptor being brought into contact, wherein the process amplifies the reaction at least in part by increasing binding affinity of at least one of said two elements. The patented claims encompass said method recited in the instant claims. The patented claims also disclose that the excitation signals having a frequency between about 20 Hz and about 20 kHz (lower than 100 kHz) (see patented claims 5-6); biological system as ligand/ receptor couple particularly antigen-antibody (see patented claim 12); active element in low or very low concentration (diluted) (see patented claim 15); excitation field isolated from parasitic fields from environment; excitation field having a uniform power spectral density particularly of the white noise or of the pink noise type (see patented claims 1 and 7); signals

Art Unit: 1637

from first transducer and second transducer (patented claims 1-2). Thus the patented claims broadly disclose the substance as biological substance, which includes ligand-receptor couple and production of electromagnetic signals characteristic of active elements in the said substance. Therefore the instant claims are obvious over the claims in the patent '978.

***Conclusion***


No claims are allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suryaprabha Chunduru whose telephone number is 703-305-1004. The examiner can normally be reached on 8.30A.M. - 4.30P.M, Mon - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 703-308-1119. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and - for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

  
Suryaprabha Chunduru  
May 20, 2003

  
JEFFREY FREDMAN  
PRIMARY EXAMINER